

# Primary Rat Tendon Stem Cells ( TDSC)

SKU: CDS11520 | Category: Primary Cells — Rat

**Validation & Biomarker Data Guide** • Lineage classification: Tendon cell / tenocyte (incl. tendon stem cells)

## 1. Product Overview

Primary Rat Tendon Stem Cells ( TDSC) is a primary cell product from rat Tendon for physiologically relevant in vitro studies. The product is particularly relevant to Stem cell derived cells and Skeletal, articular and cutaneous systems research. It can support research in cell physiology, signaling, metabolism, toxicology, drug response and cell-based assay development where a primary-cell model is preferred. Culture and passage conditions should follow the product-specific protocol. For research use only.

Primary tissue / source: Tendon | Growth type: Adherent Cells | Tumorigenic status: Normal Cells | Pack size: 1 x 0.5 million cells

## 2. Typical Applications

- Stem cell derived cells
- Skeletal, articular and cutaneous systems

## 3. Identity & Phenotypic Marker Panel

A representative identity panel for tendon cell / tenocyte (incl. tendon stem cells) products is shown below. Actual per-lot Certificates of Analysis should be consulted for verified identity data.

| Marker                    | Expected Result | Range            |
|---------------------------|-----------------|------------------|
| <b>Scleraxis (SCX)</b>    | Positive        | 55-88% positive  |
| <b>Tenomodulin (TNMD)</b> | Positive        | 45-82% positive  |
| <b>Collagen I</b>         | Positive        | 70-96% positive  |
| <b>CD31</b>               | Negative / low  | ≤4% (background) |

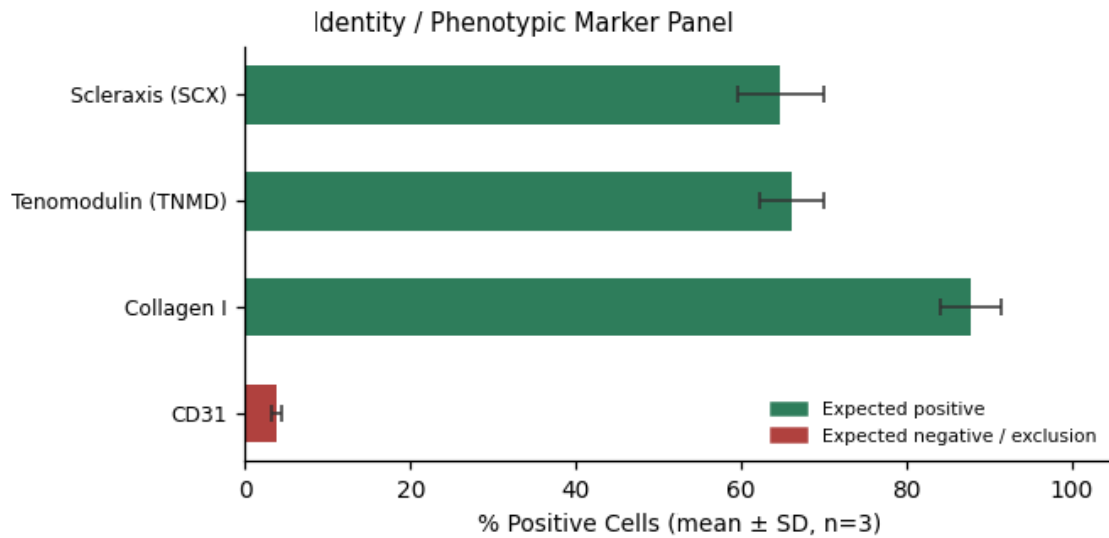


Figure 1. Marker expression profile (mean ± SD, n = 3 replicates).

#### 4. Growth Kinetics & Viability

Growth and viability trends over 120 hours in standard culture conditions.

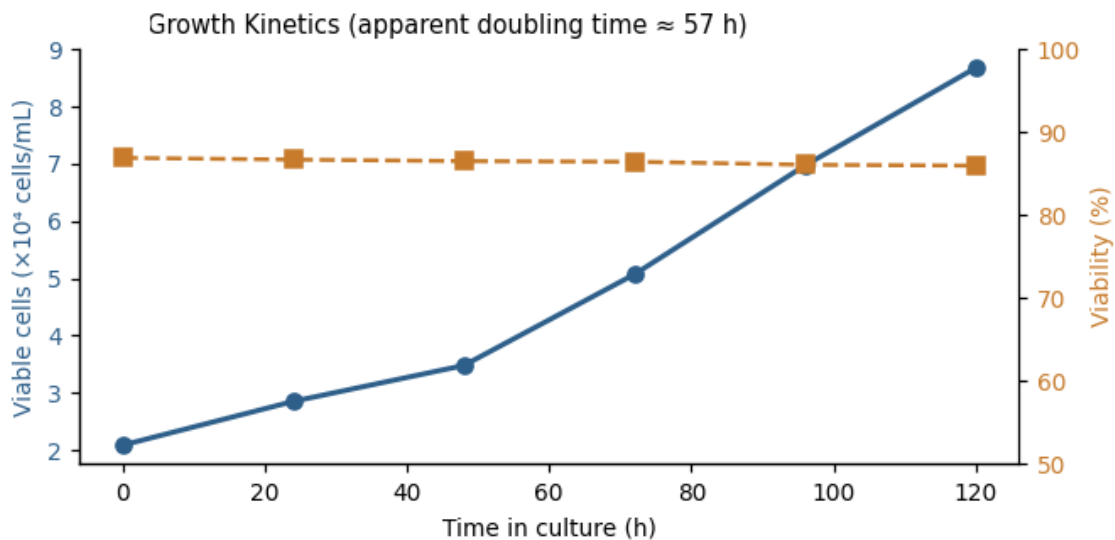


Figure 2. Growth curve (viable cell density, left axis) and viability trend (right axis).

#### 5. Functional Validation Assay

**Tenogenic differentiation / ECM assay:** Mechanical-loading or growth-factor (e.g. GDF-5/BMP-12) induced tenogenic differentiation assessed by Collagen I deposition and Scleraxis/Tenomodulin upregulation (ICC/qPCR).

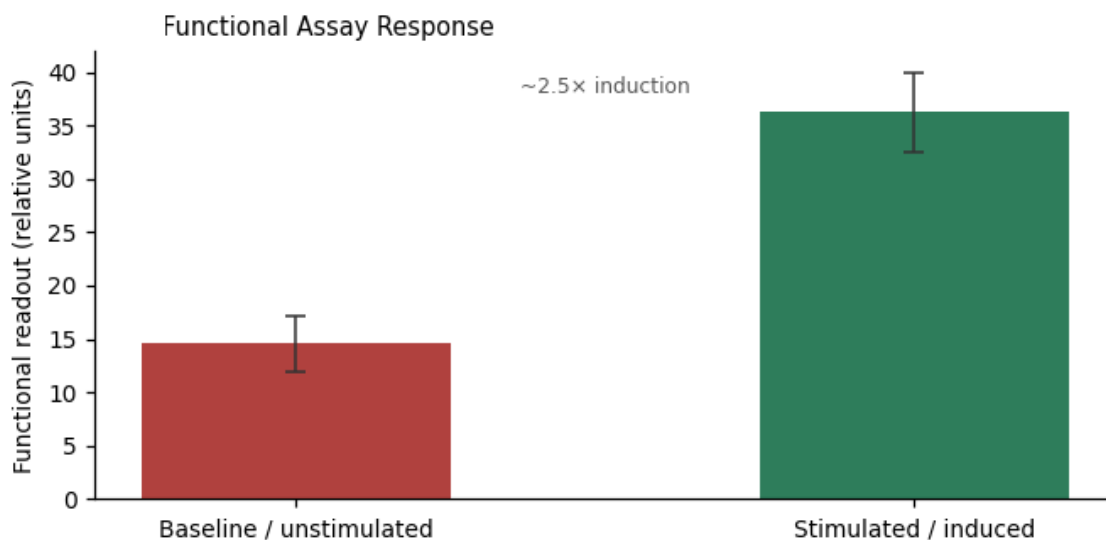


Figure 3. Functional assay readout — ~2.5x induction over baseline.

## 6. QC Acceptance Criteria

| Acceptance Criterion                                                   | Result                        |
|------------------------------------------------------------------------|-------------------------------|
| ≥55% Scleraxis+ by ICC                                                 | PASS                          |
| Spindle-shaped adherent morphology confirmed by phase-contrast imaging | PASS                          |
| Apparent population doubling time                                      | ≈ 57 hours                    |
| Functional assay outcome                                               | ~2.5x induction over baseline |

## 7. Handling & Culture Notes

- Refer to the product-specific Certificate of Analysis and datasheet for validated culture medium, seeding density, and passaging recommendations.
- As with any primary cell or cell line, confirm mycoplasma-negative status, expected morphology by phase-contrast microscopy, and viability by trypan blue or equivalent dye-exclusion assay at each passage before use in downstream assays.